# Observations on the Inaccessible Island Rail *Atlantisia rogersi*: the world's smallest flightless bird

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The diminutive flightless rail *Atlantisia rogersi* of Inaccessible Island is the sole extant species of its genus (Olson 1973). It is the only landbird endemic to the island and is the world's smallest flightless bird (Collar & Stuart 1985). The bird was described by Lowe (1928) from specimens collected in 1922, but the ecology of the bird remains little known, mainly because the remoteness of and consequent infrequency of visits to Inaccessible Island.

We present here the results of observations on the Inaccessible Island Rail made between October 1982 and February 1983 (M.W.F., I.C.B.) and in October 1989 (W.R.J.D.). The few other published data are discussed and the account in Collar & Stuart (1985) is expanded upon.

## Study site and methods

Inaccessible (37°15′S, 12°30′W) is the second largest island of the Tristan da Cunha group, central South Atlantic. The topography and biota of the island are described by Wace & Holdgate (1976), Fraser *et al.* (1988) and references therein.

In 1982–83 the densities of rails in the island's four basic vegetation types were estimated by recording birds seen or, more commonly, heard as we walked slowly through the vegetation. The proportion of the island occupied by the vegetation types was estimated from our own observations and expressed in $km^2$ based on a planar area for Inaccessible of 16 $km^2$ (Dunne 1941), with an additional 1 $km^2$ to allow for steep cliffs.

Observations of individually-marked rails, nest watches and measurements of chicks were made at Blenden Hall in the west of the island. This site is the only extensive land area at sea level and is dominated by tall (up to 3 m) tussock grass *Spartina arundinacea*. Adults were sexed on size (males tend to be slightly larger than females), and differences in colour of their cheeks and ear coverts (Elliott 1957, Ryan *et al.* 1989). Opportunistic observations were made of rails elsewhere in the coastal lowlands, and on the island plateau where the vegetation is dominated by *Blechnum palmiforme* tree ferns, Island Tree *Phylica arborea* and a variety of ferns and sedges.

## Results and discussion

*Habitat choice and population size*

The rail occurs in all vegetation types at Inaccessible Island, foraging also on exposed boulder beaches on and above the high-tide line. Population estimates made at the Blenden Hall study area were considered to

be relatively accurate; elsewhere on the island few data were collected, thus estimates made there were crude and may be considered indicative only. In mixed tussock/*Blechnum penna-marina* fern vegetation (1 $km^2$) at Blenden Hall the density of full-grown rails was estimated to be 15 birds per hectare. Here and elsewhere the density in virtually pure tussock (4 $km^2$) was estimated to be 10 birds per hectare; in mixed upland vegetation (short ferns, tussock etc; 7 $km^2$) on the island plateau to be five birds per hectare, and in *Phylica*/tree fern *B. palmiforme* (also confined to the plateau; 5 $km^2$) to be two birds per hectare. No rails were recorded in a small area of short tussock on the well-drained cinder cones near South Hill, although this does not necessarily imply their complete absence from this habitat. The estimated island population of 10,000 rails is that reported in Collar & Stuart (1985). P. G. Ryan, *contra* Siddall (1985), calculated Inaccessible Island's planar area to be 13 $km^2$. This reassessment of its area does not change the proportions in which the vegetation types occur but gives an extrapolated population of 8400 rails. Such a revised figure is unlikely to be significant, however, as the estimate is, at best, crude and the surface area of the island is greater than the planar. In the breeding season, chicks would considerably raise the population—12 chicks were recorded in the Blenden Hall study site (1 ha) in December 1982. In 1989 the rails appeared to be most numerous in tussock grass patches occupying relatively moist sites in the lowlands, and in patches of sedges *Carex thouarsii* and *Scirpus sulcatus* on the plateau.

Hagen (1952) estimated the rail population in 1938 to be 1200 birds, while accepting that this was likely to be an underestimate. In 1952, the population was estimated at 5–10,000 birds (Elliott 1957). Extrapolating from observations made over a four-day visit to Salt Beach on the island's east coast in 1974, Richardson (1984) estimated 1–2000 breeding pairs. These rough estimates cannot be used to imply any changes in population size.

Tussock fires in 1872 and 1909 (Wace & Holdgate 1976) probably would have killed many rails. Post-fire recolonization by rails of tussock (which regenerates from seed and rootstocks) could take place from damp areas, unburnt vegetation and other refugia; thus the effects of fire on the rail population would be temporary. There apparently have been no fires or similarly catastrophic events at Inaccessible Island for over eighty years. It is likely, therefore, that at present the population is at carrying capacity and that regulatory mechanisms such as low fertility and delayed maturity operate to limit productivity (Ryan *et al.* 1989).

*General habits*

The Inaccessible Island Rail has been likened to a mouse in terms of the ecological niche which it occupies (Collar & Stuart 1985). This analogy is a fair one and may be extended to include the bird's general habits. Its swift, darting runs and moments of immobility and its foraging behaviour are reminiscent more of a mouse than a bird. It forages slowly and deliberately, but can run extremely fast when alarmed or in pursuit of a rival. When running the wings are raised and arched and the body lowered. When traversing or feeding in open ground, such as short vegetation or boulder beaches, it is extremely wary. It is active mainly in daylight, but also forages and calls at night.

In addition to the cover and protection afforded by tall vegetation, particularly tussock, the rails use natural connecting cavities under boulder beaches and small tunnels (formed by regular use) through *Blechnum penna-marina* and sedge mats for access and concealment. There is no evidence that rails excavate underground burrows, although Elliott (1957: 202) notes that a captive bird dug a hole "nearly a foot [30 cm] deep by the roots of a tussock plant". Full-grown rails and chicks will climb up *Phylica* and bundles of tussock to 1.5 m where the slope is less than *c.* 60°, extending and flapping their wings for balance and, probably, aided by their well-developed 'thumb claw'.

Inaccessible Island Rails occur singly, in pairs or in family groups of up to five birds which comprise parents and their two chicks and single subadult birds. Although the members of such groups stay close and generally in sight of one another, they maintain vocal contact almost continuously.

*Food*

The rail has a varied diet of plant and animal matter. Our observations do not add to the range of food detailed by previous authors (Rogers 1926, Hagen 1952, Elliott 1957, Richardson 1984). The rails were not recorded eating fish or bird carrion. Fish carrion occurs as beach strandings or seabird regurgitates; bird remains are readily available where carcasses are abandoned by Subantarctic Skuas *Catharacta antarctica*. At Gough Island, 350 km southeast of Tristan, this resource is exploited by a flightless moorhen *Gallinula comeri* (Watkins & Furness 1986) and at Inaccessible Island by the Tristan Thrush *Nesocichla eremita*. The rails ignored foods such as cheese and bread used to bait walk-in traps, and which were readily eaten by thrushes. Such partitioning might reduce feeding competition between the two species, although their diets do overlap (pers. obs). Rail chicks were fed invertebrates (see below).

*Vocalizations and display*

The Inaccessible Island Rail is highly vocal, employing a variety of often loud calls, presumably to communicate in the dense vegetation where visual contact is precluded. A commonly-used vocalization is a loud trill, similar to that of the Dabchick *Podiceps ruficollis* or the Cape Rail *Rallus caerulescens*. This trill is uttered by members of breeding pairs on meeting and in threat display between adults of different pairs or family groups. Confrontations between rival adults are accompanied by loud squealing followed by a prolonged twitter, or one bird squeals while the other utters a long, excited *keekeekeekeekee* ... twitter, of varying length and ending *keekeechitrrrr*. The birds face each other, standing a few centimetres apart while their heads are lowered and bills pointed to the ground. Sometimes they then slowly circle about a point midway between them. After a short time one bird slowly retreats, or is driven off by the other following two or three skirmishes or a fast chase. The victorious bird then may utter a *weechup, weechup* call. A courtship display involves much the same vocalizations and movements, but ends with the birds moving off silently together. Courtship feeding takes place silently and involves the presentation of food (earthworms or centipedes)

by the male to the female. The latter bobs its head prior to accepting the food.

Foraging adults give a slow, rather monotonous *tchik, tchik, tchok, tchik* . . ., a soft, enquiring *choptchaptchick* and a soft *tchik-tchuk* or *chip chip*. The last call is also given by incubating birds or when disturbed at the nest. A hard *chip* alarm call is repeated when Subantarctic Skuas fly overhead. This call prompts adults to become alert and chicks to become silent.

We were unable, because of the density of the vegetation, to determine the circumstances under which other calls were given. These calls include a soft *tik tik*, an aggressive *tchick*, a harsh rattling trill, a brief *schkreek*, a high-pitched, enquiring *tip*, a *queechick* rising on the *chick*, a *squick*, a twanging *chong chick*, a short *t-tchip* and a low, guttural *queechock*. Calls during incubation are detailed below. Chicks utter a repetitive *tchwip* contact call, similar to that of many young galliformes when following their parents. If visual contact with the adults is lost, the chick gives a more resonant *tchwee*. The call becomes louder and more frequent the longer the chick is separated from its parents.

*Territoriality*

The dense vegetation made observations of colour-ringed birds at Blenden Hall difficult, and sightings are likely to reflect the relative ease of observation of the birds as much as their movements. Nevertheless, our results indicated that individual rails and family parties tended to remain largely, but not exclusively, within small areas (0.01–0.04 ha). Skirmishes between adult birds, involving loud trilling and buffetting, were recorded when families or adults met. The high density of rails made such encounters frequent and necessitated what is likely to be a very loose and flexible territorial system.

*Breeding*

Apart from notes on the eggs (Rothschild 1928), nest and eggs (Fraser 1989) and broods of young (Broekhuysen & Macnae 1949, Hagen 1952, Richardson 1984, Fraser 1989), the breeding biology of the Inaccessible Island Rail remains largely undocumented.

*Breeding season*

Eggs or young have been found from October to February. Backdating the records of young (Broekhuysen & Macnae 1949, Hagen 1952, Richardson 1984) indicates that eggs are laid from October to January. In 1982 the first chick was recorded on 10 November, but a chick thought to be at least two weeks old was found on 18 November. There was a peak in the number of chicks in early to mid-December.

*Nest*

Nests are sited on the ground in low-growing ferns *Blechnum penna-marina* with sparse tussock, in sedges, at the base of tussock grass clumps or in ferns under dense cover of fallen tussock grass. An access track or broken tunnel through the vegetation runs up to 0.5 m from the nest entrance. The nest is oval or pear-shaped with an entrance at the narrower

end. Nests may be thinly domed (through which the incubating bird may escape when disturbed), or more sturdily roofed over with the same material as the body of the nest. One nest measured 130 mm across and high and 170 mm in length. The internal diameter was 90 mm and entrance hole *c.* 40 mm in diameter. Nests are constructed entirely of dead tussock leaves (n = 4) or of dead sedges (n = 1), reflecting the vegetation type in which the nest is located. In tussock nests, the outer casing is constructed from broad curled leaves, whereas the cup is lined with finer strips. Elliott (1957) describes a nest at Salt Beach lined with "dead leaves", presumably of the apple *Malus* or willow *Salix* trees near which the abandoned nest was situated. In 1982, nest material was added to a nest containing two eggs in sedges on the summit plateau. Additionally, the entrance hole was almost completely built over following the initial discovery of the nest. Neither of the nests found at Blenden Hall was so altered. It is possible that this was due to a spell of wet and cold weather (the plateau may be enveloped in orographic cloud for many days, whereas at sea level the weather remains dry and relatively warm).

*Clutch-size and eggs*

Our observations, those of Broekhuysen & Macnae (1949) and Richardson (1984) and the comment of Hagen (1952: 197), suggest that a full clutch is two (n = 8). Rothschild (1928) exhibited a clutch of three eggs, collected at Inaccessible in 1927 or 1928. Although no further published details have been found, it is possible that these eggs came from two clutches. The eggs are pale buffy-white, creamy-white or greyish-white, with a thin scattering of small dark reddish-brown speckles and a concentration of brown speckles over slate shell marks at the broad end (Rothschild 1928; pers. obs.). The eggs resemble those of *Rallus* species we have examined. Mathews (1932) noted that the eggs are "almost indistinguishable from some varieties of the eggs of *Crex crex*".

Two eggs from one clutch measured 32.6 × 22.0 and 33.8 × 23.3 mm. The average mass of each of the eggs of one clutch weighed six times in the period four to two days before hatching was 8.7 ± 0.12 g. This is some 25% of the mass of the female, which averages 36.9 g (Ryan *et al.* 1989).

*Incubation period*

The incubation period of the Inaccessible Island Rail is unknown. Two clutches found on 7 October 1982 hatched on 12/13 October and 19 October, respectively. A nest found on 15 October 1989 contained two eggs which had not hatched by 24 October.

*Incubation regimen and behaviour*

Both sexes incubate. A watch was kept at one Blenden hall nest for three days before the first of the two eggs hatched. In 22.7 hours of observation, the female incubated for 9.0 hours (39.1% of the time), the male for 13.4 hours (58.4%), and the nest was unattended for 0.3 hours (2.4%). The average duration of incubation sessions was 50.4 ± 37.3 minutes (range 5–114 minutes) by the female (n = 7) and 80.7 ± 46.0 minutes (27–143 minutes) by the male (n = 9). The nest was unattended for an average of 3.3 ± 3.2 minutes (0.3–9 minutes; n = 10). Both sexes brought food

to their incubating partner. Items were proffered at the nest entrance and accepted there by the incubating bird, or the latter left the nest in response to the other's calls and received the food up to 4 m from the nest. Identified food items were centipedes, earthworms and caterpillars. While incubating, the female ate small leafhoppers (Homoptera) caught on nest material at the nest entrance.

The female was present at the hatching of one egg, and was replaced by the male 30 minutes later. During incubation the female occasionally undertook nest maintenance (re-arranging tussock grass).

Changeover at one nest was preceded by either or both birds giving *chip chip* calls at intervals for up to 62 minutes. Such duets were initiated by either bird. The calls of the incubating bird became louder the longer its mate took to respond. On one occasion the incubating male trilled loudly in the nest in response to the *tchuck tchuck* of the approaching female, before emerging from the nest to meet her. Both birds entered the nest; the female then remained to incubate.

Other observations made during incubation were: (1) the incubating bird leaving the nest when its mate was within 1 m of it, the pair trilling loudly for up to 20 seconds and the relieving bird slowly entering the nest; (2) the incubating bird trilling loudly while leaving the nest in response to its mate's soft whistle, but returning after two minutes; (3) the male approaching the nest calling *chuck chuck*, but leaving after receiving no response from the incubating female; (4) the female offering a moth to the incubating male, both birds leaving the nest, the male returning to and entering the nest with the moth after 20 seconds; (5) the female trilling on the nest in response to trills from the male and other rails, but remaining in the nest.

Incubating birds often looked out of the nest in response to noises. On the first day of nest watching the incubating bird left the nest at the approach of the human observer, and gave soft *chip chip* calls while the nest was inspected or the observer took up his watching position. On the second day and subsequently, however, the rails sat tight and had to be gently eased off the nest to inspect the contents. Under such circumstances the male tended to sit tighter than the female. The incubating birds also accepted and ate earthworms from the observer's hand.

An incubating rail watched the approach and passing of a Tristan Thrush, but remained silent and motionless even when the latter was within 50 cm of the nest. A rail chick which ventured within sight of the nest retreated when the incubating female uttered a loud trill.

*Hatching schedule and success*

Hatching of two two-egg clutches took place at night or in daylight. In one clutch, one egg was pipping a maximum of 15 hours before hatching. The chick within the other egg was calling for a maximum of 45 hours before hatching. The interval between the hatching of the two eggs was a minimum of 23 hours and a maximum of 32 hours. The eggs of another clutch hatched a maximum of 12.5 hours apart. At this immediate pre-hatching stage the eggs weighed 8.5 g and 8.3 g. In one study nest the female carried a piece of eggshell from the nest chamber to the entrance tunnel, broke it and returned with the fragments into the nest.

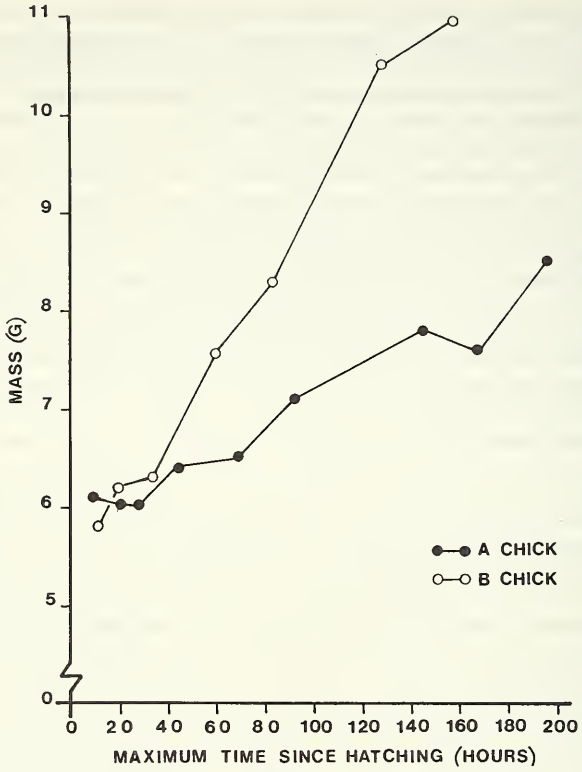


Figure 1. Growth of *Atlantisia rogersi* chicks.

Changeover of brooding birds followed the same procedure as for incubation, and was accompanied by extensive vocalizations.

Three (37%) of eight eggs found in 1982 were addled. Although the sample is small, it may indicate low fertility and a low breeding success. One of two eggs found in 1989 was damaged and would not have hatched.

*Description, development and behaviour of chicks*

Although specimens have been collected (Broekhuysen & Macnae 1949), the Inaccessible Island Rail chick appears not previously to have been described.

Day-old chicks are covered entirely in soft, black down 7–9 mm in length. Legs, feet and bill are black; gape silvery-white, inside of mandible tips black; iris dark brown. The bill is fleshy and soft and the egg-tooth white. The measurements (mm) of a day-old chick were as follows: culmen 8.0; bill width 4.0; bill depth 5.0; tarsus 11.0; outer toe 17.0; middle toe 19.5; inner toe 15.5; total length 60.5; mass 7.8 g.

Weight changes of a brood of two chicks are given in Figure 1. The egg-tooth disappeared two to seven days after hatching. A chick caught when

TABLE 1
Growth of *Atlantisia rogersi* chicks (mass in g, other measurements in mm)

| Date | Mass | Culmen | Bill depth | Bill width | Tarsus | Outer toe | Middle toe | Inner toe | Hind toe | Folded wing* | Extended wing* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CHICK 1 (approximately one month old at first capture) | | | | | | | | | | | |
| 09.12.82 | 27.5 | 16.5 | 7.0 | 4.5 | | 23.0 | 29.5 | 23.5 | 9.5 | | |
| 10.12.82 | 30.3 | | | | | | | | | | |
| 14.12.82 | 32.6 | 17.0 | 7.0 | 5.0 | 17.5 | 25.0 | 31.0 | 24.5 | 10.0 | 15.5 | |
| 16.12.82 | 31.1 | 18.0 | 8.0 | 5.0 | 18.0 | 25.0 | 32.0 | 25.0 | 11.5 | 18.5 | 45.0 |
| 21.12.82 | 31.2 | 19.0 | 8.0 | 5.0 | 21.0 | 25.5 | 32.0 | 25.5 | 12.0 | | 46.0 |
| CHICK 2 (approximately two weeks old at first capture) | | | | | | | | | | | |
| 16.12.82 | 18.9 | | | | | | | | | | |
| 18.12.82 | 19.9 | 13.0 | | | | 22.0 | 26.0 | 20.0 | 11.0 | | |
| 21.12.82 | 17.2 | | | | | | | | | | |
| 22.12.82 | 18.1 | 13.5 | | | | | | | | | |
| 23.12.82 | 18.4 | 14.0 | 5.5 | 5.0 | 18.0 | 25.5 | 29.5 | 26.5 | 11.0 | 12.0 | 28.0 |
| 21.01.83 | 32.6 | 19.5 | 7.0 | 5.0 | 20.5 | 26.0 | 32.0 | 26.5 | | 26.0 | 45.0 |

*excluding down feathers

approximately two weeks old had lost all its natal down when recaptured five weeks later. The growth of this (no. 2) and of another chick are given in Table 1.

The well developed 'thumb claws', which on chicks are as large as those of adults, have not been commented upon before, apart from Lowe's (1928: 116) observation that the "thumb is provided with a very prominent claw". These relatively large, exposed structures may assist the birds in climbing tussock.

Chicks walked within two hours of hatching and left the nest within a day of hatching. Initially, the chicks remained in the entrance tunnel, but 28 hours after the hatching of the first chick, were led away from the nest. The chicks returned to the nest periodically during the day and remained therein overnight with one parent for the first two nights. Chicks were also brooded away from the next by the male during the day. Chicks basked in warm sunshine between feeding by adults. Four days after hatching the chicks moved up to 5 m from the nest and climbed up to 1 m in sloping bundles of tussock, extending their wings for balance. Chicks made exploratory pecks at the ground and vegetation soon after leaving the nest and were observed attempting unsuccessfully to catch leafhoppers seven days after hatching.

Chicks were shepherded by one parent while the other foraged. Food items brought by the foraging adult were fed directly to the chicks or via the attendant adult. Chicks pecked at the parent's bill tip even when the latter contained no food. In order of frequency, identified food items comprised centipedes, earthworms, caterpillars, moths and amphipods.

Adult rails vigorously defended their chicks against Tristan Thrushes. A female rail attacked a thrush which had approached the former's nest containing chicks. The rail repeatedly ran up to and pecked the thrush, retreating into cover between attacks. The thrush then followed the rail into dense tussock, emerging and flying off approximately one minute later. The rail then reappeared and visited its nest briefly before moving away. During this encounter the brooding male was silent and

motionless. On another occasion, a thrush landing near the rail chicks was immediately rammed by the female rail and flew off.

*Predation*

None of four chicks ringed one or two days after hatching survived more than 10 days after leaving the nest. One was killed by Tristan Thrushes and circumstantial evidence suggested that thrushes also killed the remainder. The two study nests at Blenden Hall were damaged by thrushes (which removed the top third of the nests, exposing the chamber). Parent rails were vigorous in their defence of chicks against thrushes (see above). Adult rails were eaten by Subantarctic Skuas (Hagen 1952, Fraser 1984, Ryan & Moloney 1991). No other birds are known or are likely to prey upon rails at Inaccessible. Anti-predator avoidance by adult rails involved uttering alarm calls and moving quickly into dense cover when a skua flew overhead or when a thrush approached. Adult rails were observed to draw in their heads and fluff up their plumage when confronted by a thrush before or as they (the rails) rapidly took cover. On one occasion a thrush and a rail passed within 10 cm of each other but ignored one another.

*Conservation*

The Inaccessible Island Rail is abundant within its restricted range, and is under no immediate danger of extinction. Potential threats to its welfare exist, however, notably the introduction of mammalian predators, none of which presently occurs on the island. Cats *Felis domesticus*, Black Rats *Rattus rattus* and House Mice *Mus domesticus* occur on Tristan where their impact on the native biota is unquantified. Mice have been found aboard Tristan longboats bound for Nightingale Island (Richardson 1984). Rats have infested fishing vessels working around the Tristan archipelago (Richardson 1984) and can reach islands on floating refuse (Moors & Atkinson 1984). Although visits to Inaccessible Island are infrequent, each carries the risk of introducing these and other harmful alien organisms to the island. The stringent precautions necessary to prevent the accidental introduction of alien species appear not to be applied or to be ineffective, as demonstrated by the sighting of a rat near the South African weather station at Gough Island in 1983 (Wace 1986a, b, Watkins & Furness 1986). Some twenty species of alien plants and a number of alien invertebrates occur on Inaccessible Island (Holdgate 1965, Wace & Holdgate 1976), but none is yet known to have an adverse effect on the rail or other native fauna. Indeed some, such as centipedes, may be an important food item of rails.

Collar & Stuart (1985) propose and discuss conversation measures for the Inaccessible Island Rail. These include, as a safety measure, the introduction of birds to Gough Island or nearby Nightingale Island, which have a similar climate and vegetation to Inaccessible. Such introductions would, however, expose these islands' endemic invertebrate assemblages to predation and possible extinction (W.R.P. Bourne, in Collar & Stuart 1985). In addition, the rails would remain at risk from the accidental introduction of mammalian predators. We consider the establishment of captive breeding stock the most useful conservation measure. Captive

birds would also facilitate scientific research and promote public awareness of the rail and other wildlife of the Tristan da Cunha islands. Little is known, however, of the birds' long-term response to captivity. Rails kept as pets by Tristan islanders apparently did not live for long (N. Green). Broekhuysen & Macnae (1949) kept adult and young rails for "some days", feeding them "woodlice and worms", but all died. Elliott (1957) noted that rails "travel well in a small cask". Although it is not known how long he kept the birds, they became "established" and were fed "amphipods and isopods . . . and cranberries *Empetrum*".

Past attempts at farming on Inaccessible Island have been largely short-lived and unsuccessful. Nevertheless, agricultural development of the island is still advocated as a means of supplementing the Tristan islanders' diet (e.g. Helyer 1981). Apart from the detrimental effects on the indigenous biota of introduced crop plants and livestock such as sheep, increased traffic would seriously heighten the risk of introducing alien mammals from Tristan.

The Tristan da Cunha Conservation Ordinance, 1976, provides for the protection of all but two species of bird at Inaccessible (Rockhopper Penguin *Eudyptes chrysocome* and Great Shearwater *Puffinus gravis* may be harvested there by Tristan islanders). The island does not have nature reserve status in terms of the ordinance, however. Such formal declaration, which should include the prohibition of agriculture, is highly desirable for the rail, the island's other landbird species and its seabird colonies (Fraser *et al.* 1988). Inaccessible Island also merits registration as a site within the World Heritage Convention of 1972 because of its endemic fauna and because it is undisturbed and free of introduced predators, and is one of the least man-modified islands in the world.

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# Comments on the nomenclature and dates of publication of some taxa in Bucerotidae

*by M. Ralph Browning*

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Modern literature on Bucerotidae contains several scientific names that are used or cited incorrectly. The most notable problem is the concurrent use of two different specific names for the Southern Ground Hornbill (*Bucorvus*), a species occurring from Kenya to northern Angola, Zimbabwe, Mozambique and South Africa.

*Specific name of the Southern Ground Hornbill*

Historically the Southern Ground Hornbill has been known by three specific names. *Bucorvus cafer* (Schlegel, 1862) was used by most early